NASA MARSHALL SPACE FLIGHT CENTER ATOMIC OXYGEN INVESTIGATIONS

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ABSTRACT

An overview of NASA Marshall Space Flight Center atomic oxygen investigations is provided, including descriptions of flight studies, ground-based testing, contractual efforts, and future focus. Summary results of flight experiments on STS-5, STS-8, and STS-41G are presented. The development of the Marshall Space Flight Center Atomic Oxygen Resistive Monitor for the upcoming EOIM-3 flight experiment is reviewed. Materials characterization work and ground-based testing are described. Contractual efforts, such as the development of atomic oxygen resistant coatings for Space Station, are included. Future emphasis is placed on enhanced ground-based testing via the development and operation of a state-of-the-art atomic oxygen simulation system and on the continuation of flight studies in support of multi-programs.